

**THE FOLLOWING IS THE ENGLISH TRANSLATION OF THE  
AMENDMENTS TO THE CLAIMS OF THE INTERNATIONAL  
APPLICATION UNDER PCT ARTICLE 19:**

**AMENDED SHEETS (Page48-65)**

REPLACED BY  
ART 34 AMDT

## CLAIMS

1. A recording method for:

carrying out data compression on time-series  
information;

recording said time-series information completing  
said data compression onto a recording medium;

adding management information for a  
decoding/reproduction process to data included in each of  
decoding/reproduction units of said time-series  
information completing said data compression; and

recording said management information onto said  
recording medium,

whereby additional information for data included in  
each of predetermined-interval decoding/reproduction  
units is recorded onto said recording medium by being  
associated with said management information for said  
decoding/reproduction process for data of a corresponding  
one of said decoding/reproduction units where said  
predetermined-interval decoding/reproduction units are  
some of said decoding/reproduction units separated from  
each other by predetermined time intervals.

2. The recording method according to claim 1  
wherein,

data of a read/write unit serving as a unit, in

which data is written onto said recording medium and read out from said recording medium, includes a plurality of said decoding/reproduction units of said time-series information; and

the sequence of pieces of data included in said decoding/reproduction units pertaining to said read/write unit in a time-series direction is changed.

3. The recording method according to claim 1 or 2 wherein said management information added to data of said decoding/reproduction unit as management information for said decoding/reproduction process is time management information on a reproduction/output timing of said data.

4. The recording method according to claim 2 whereby additional information for data of said predetermined-interval decoding/reproduction unit is recorded by placing management information for a decoding/reproduction process for data of a corresponding one of said decoding/reproduction units at a predetermined location in data of said read/write unit.

5. The recording method according to claim 2 wherein:

data of said read/write unit comprises a plurality of packets; and

additional information for data of said

predetermined-interval decoding/reproduction unit is recorded in data of said read/write unit as a packet including management information for a decoding/reproduction process for data of a corresponding one of said decoding/reproduction units.

6. The recording method according to claim 2 wherein:

data of said read/write unit comprises a plurality of packets;

a specific packet is selected among said packets of said time-series information completing said data compression; and

additional information for data of said predetermined-interval decoding/reproduction unit is recorded at a location determined as a location relative to said specific packet including management information for a decoding/reproduction process for a corresponding one of said decoding/reproduction units.

7. The recording method according to claim 1 or 2 wherein said additional information includes at least information on a time at which data of said decoding/reproduction unit of said time-series information is acquired.

8. The recording method according to claim 1 or 2

wherein said additional information includes at least information on a condition in which data of said decoding/reproduction unit of said time-series information is acquired.

9. The recording method according to claim 1 or 2 wherein;

said time-series information is video information;  
data of said decoding/reproduction unit is information of a field unit or a frame unit; and

said data compression uses a correlation with data of said decoding/reproduction unit.

10. A recording apparatus comprising:

data compression means for carrying out data compression on time-series information;

management-information generation means for generating management information for a decoding/reproduction process and adding said management information to data included in each of decoding/reproduction units of said time-series information completing said data compression;

additional-information generation means for generating additional information for data included in each of predetermined-interval decoding/reproduction units, which are some of said decoding/reproduction units

separated from each other by predetermined time intervals; and

recording control means for:

recording said time-series information completing said data compression on a recording medium by adding said management information generated by said management-information generation means as management information for a decoding/reproduction process to data of said decoding/reproduction unit; and

recording said additional information generated by said additional-information generation means on said recording medium by associating said additional information with management information generated by said management-information generation means as management information for said decoding/reproduction process for data of a corresponding one of said decoding/reproduction units.

11. The recording apparatus according to claim 10 wherein,

said recording control means generates data including a plurality of said decoding/reproduction units of said time-series information as data of a read/write unit serving as a unit, in which data is written onto said recording medium and read out from said recording

medium; and

the sequence of pieces of data included in said decoding/reproduction units pertaining to said read/write unit in a time-series direction is changed.

12. The recording apparatus according to claim 10 or 11 wherein said management information added to data of said decoding/reproduction unit as management information for said decoding/reproduction process is time management information on a reproduction/output timing of said data.

13. The recording apparatus according to claim 11 wherein said recording control means records additional information for data of said predetermined-interval decoding/reproduction unit by placing management information for a decoding/reproduction process for data of a corresponding one of said decoding/reproduction units at a predetermined location in data of said read/write unit.

14. The recording apparatus according to claim 11 wherein:

data of said read/write unit comprises a plurality of packets; and

said recording control means records additional information for data of said predetermined-interval

decoding/reproduction unit in data of said read/write unit as a packet including management information for a decoding/reproduction process for data of a corresponding one of said decoding/reproduction units.

15. The recording apparatus according to claim 11 wherein:

data of said read/write unit comprises a plurality of packets;

a specific packet is selected among said packets of said time-series information completing said data compression; and

said recording control means records additional information for data of said predetermined-interval decoding/reproduction unit at a location determined as a location relative to said specific packet including management information for a decoding/reproduction process for a corresponding one of said decoding/reproduction units.

16. The recording apparatus according to claim 10 or 11 wherein said additional information includes at least information on a time at which data of said decoding/reproduction unit of said time-series information is acquired.

17. The recording apparatus according to claim 10



or 11 wherein said additional information includes at least information on a condition in which data of said decoding/reproduction unit of said time-series information is acquired.

18. The recording apparatus according to claim 10 or 11 wherein;

said time-series information is video information;  
data of said decoding/reproduction unit is  
information of a field unit or a frame unit; and

said data compression uses a correlation with data of said decoding/reproduction unit.

19. A recording medium for:

recording time-series information completing data compression;

recording management information by adding said management information for a decoding/reproduction process to data included in each of decoding/reproduction units of said time-series information completing said data compression; and

recording additional information for data included in each of predetermined-interval decoding/reproduction units by associating said additional information with management information for said decoding/reproduction process for data of a corresponding one of said

decoding/reproduction units where said predetermined-interval decoding/reproduction units are some of said decoding/reproduction units separated from each other by predetermined time intervals.

20. The recording medium according to claim 19 wherein,

data of a read/write unit serving as a unit, in which data is written onto said recording medium and read out from said recording medium, includes a plurality of said decoding/reproduction units of said time-series information; and

the sequence of pieces of data included in said decoding/reproduction units pertaining to said read/write unit in a time-series direction is changed.

21. The recording medium according to claim 19 or 20 wherein said management information added to data of said decoding/reproduction unit as management information for said decoding/reproduction process is time management information on a reproduction/output timing of said data.

22. The recording medium according to claim 20 whereby additional information for data of said predetermined-interval decoding/reproduction unit is recorded by placing management information for a decoding/reproduction process for data of a corresponding

one of said decoding/reproduction units at a predetermined location in data of said read/write unit.

23. The recording medium according to claim 20 wherein:

data of said read/write unit comprises a plurality of packets; and

additional information for data of said predetermined-interval decoding/reproduction unit is recorded in data of said read/write unit as a packet including management information for a decoding/reproduction process for data of a corresponding one of said decoding/reproduction units.

24. The recording medium according to claim 20 wherein:

data of said read/write unit comprises a plurality of packets;

a specific packet is selected among said packets of said time-series information completing said data compression; and

additional information for data of said predetermined-interval decoding/reproduction unit is recorded at a location determined as a location relative to said specific packet including management information for a decoding/reproduction process for a corresponding

one of said decoding/reproduction units.

25. The recording medium according to claim 19 or 20 wherein said additional information includes at least information on a time at which data of said decoding/reproduction unit of said time-series information is acquired.

26. The recording medium according to claim 19 or 20 wherein said additional information includes at least information on a condition in which data of said decoding/reproduction unit of said time-series information is acquired.

27. The recording medium according to claim 19 or 20 wherein;

said time-series information is video information;  
data of said decoding/reproduction unit is  
information of a field unit or a frame unit; and

said data compression uses a correlation with data  
of said decoding/reproduction unit.

28. The reproduction method for a recording medium according to any one of claims 19 to 27, whereby:

data of said decoding/reproduction unit of said  
time-series information is decompressed to be reproduced  
and output by using management information for said  
decoding/reproduction unit; and

by using management information for said decoding/reproduction process, said additional information is reproduced and output synchronously with an operation to reproduce and output data of a corresponding one of said decoding/reproduction units of said time-series information.

29. The reproduction method for a recording medium according to any one of claims 19 to 27, whereby:

data of said decoding/reproduction unit of said time-series information is decompressed to be reproduced and output by using management information for said decoding/reproduction unit; and

by using management information for said decoding/reproduction process, said additional information is reproduced synchronously with an operation to reproduce and output data of a corresponding one of said decoding/reproduction units of said time-series information, and said reproduced additional information is used for controlling data of a corresponding one of said decoding/reproduction units.

30. The reproduction apparatus for a recording medium according to any one of claims 19 to 27, said reproduction apparatus comprising:

read means for reading out said compressed time-

series information and said additional information from said recording medium;

separation means for separating said compressed time-series information and said additional information, which have been read out by said read means;

decompression means for decompressing said compressed time-series information separated by said separation means;

first reproduction/output means for reproducing and outputting said decompressed time-series information by using management information for said decoding/reproduction process; and

second reproduction/output means for reproducing and outputting said additional information output by said separation means synchronously with an operation to reproduce and output data of said decoding/reproduction unit of said time-series information by using management information for said decoding/reproduction process.

31. The reproduction apparatus for a recording medium according to any one of claims 19 to 27, said reproduction apparatus comprising:

read means for reading out said compressed time-series information and said additional information from said recording medium;

separation means for separating said compressed time-series information and said additional information, which have been read out by said read means;

decompression means for decompressing said compressed time-series information separated by said separation means;

reproduction/output means for reproducing and outputting said decompressed time-series information by using management information for said decoding/reproduction process; and

reproduction/control means for reproducing said additional information output by said separation means in synchronization with an operation to reproduce and output data of said decoding/reproduction unit of said time-series information by using management information for said decoding/reproduction process, and controlling data of a corresponding one of said decoding/reproduction units on the basis of said generated additional information.

32. An image pickup apparatus comprising:

image pickup device;

image pickup optical system for forming an object image on said image pickup device;

data compression means for carrying out a data

compression process on video information output by said image pickup device;

time-management information generation means for generating time-management information for a decoding/reproduction process and adding said time-management information to data included in each of decoding/reproduction units of said video information compressed by said data compression means ;

additional-information generation means for generating additional information for data included in each of predetermined-interval decoding/reproduction units, which are some of said decoding/reproduction units separated from each other by predetermined time intervals; and

recording control means for:

recording said video information completing said data compression on a recording medium by adding said management information generated by said management information generation means as management information for a decoding/reproduction process to data of said decoding/reproduction unit; and

recording said additional information generated by said additional-information generation means on said recording medium by associating said additional



information with management information generated by said management information generation means as management information for said decoding/reproduction process for data of a corresponding one of said decoding/reproduction units.

33. The image pickup apparatus according to claim 32 wherein,

said recording control means generates data including a plurality of said decoding/reproduction units of said video information as data of a read/write unit serving as a unit, in which data is written onto said recording medium and read out from said recording medium; and

the sequence of pieces of data included in said decoding/reproduction units pertaining to said read/write unit in a time-series direction is changed.

34. The image pickup apparatus according to claim 32 wherein said recording control means records additional information for data of said predetermined-interval decoding/reproduction unit by placing management information for a decoding/reproduction process for data of a corresponding one of said decoding/reproduction units at a predetermined location in data of said read/write unit.

35. The image pickup apparatus according to claim 32 wherein:

data of said read/write unit comprises a plurality of packets; and

said recording control means records additional information for data of said predetermined-interval decoding/reproduction unit in data of said read/write unit as a packet including management information for a decoding/reproduction process for data of a corresponding one of said decoding/reproduction units.

36. The image pickup apparatus according to claim 32 wherein:

data of said read/write unit comprises a plurality of packets;

a specific packet is selected among said packets of said compressed time-series information; and

said recording control means records additional information for data of said predetermined-interval decoding/reproduction unit at a location determined as a location relative to said specific packet including management information for a decoding/reproduction process for a corresponding one of said decoding/reproduction units.

37. The image pickup apparatus according to claim

32 wherein said additional information includes at least information on a time at which data of said decoding/reproduction unit of said video information is acquired.

38. The image pickup apparatus according to claim 32 wherein said additional information includes at least information on a condition in which data of said decoding/reproduction unit of said time-series information is acquired.

39. The image pickup apparatus according to claim 32 wherein;

data of said decoding/reproduction unit is information of a field unit or a frame unit; and

said data compression process uses a correlation with data of said decoding/reproduction unit.